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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIM, PAUL

ART UNIT PAPER NUMBER

2161

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,404

Applicant(s)

ELDAR ET AL.

Examiner

Paul Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20060503
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This Office Action is responsive to the following communication: Original Application filed on 26 November 2003.
2. Claims 1-28 are pending and present for examination. Claim 1, 12, 23, 27, and 28 are independent.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Reference characters 91, 94, and 96 of Paras. [0052]-[0053].

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. **Claims 1-2, 4-5, 8, 13-15, 19, and 24** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. **As per independent claim 1**, the claim recites "one or more studies" in line 5 of the claim. It is unclear whether this is intended to be the same as or different from "a plurality of studies" as recited in line 2 of the claim.

7. **As per dependent claim 2**, the claim recites "one or more studies" in lines 1-2 of the claim. It is unclear whether this is intended to be the same as or different from "a plurality of studies" as recited in line 2 of claim 1.

8. **As per dependent claims 4 and 5**, the claims recite "a user" in lines 2 and 3 respectively. It is unclear whether this is intended to be the same as or different from "a user" as recited in line 10 of claim 1.

Additionally, dependent claim 4 recites "data" in line 3 of the claim. It is unclear whether this is intended to be the same as or different from "data" recited in line 2 of the claim.

9. **As per dependent claims 13-15**, the claims recite "one or more studies" in lines 1-2 of the claim. It is unclear whether this is intended to be the same as or different from "studies" as recited in lines 4 and 6 of claim 12.

10. **As per dependent claim 8, 14, 19, and 24**, the phrase "increasing accuracy and quality" in the claims contains a relative term which renders the claim indefinite. The phrase "increasing accuracy and quality" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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12. **Claims 1-10, 12-21, 23-24, and 26-28** are rejected under 35 U.S.C. 102(b) as being anticipated by Rothschild et al (USBPUG 2002/0016718, hereinafter referred to as ROTHSCCHILD), filed on 1 June 2001, and published on 7 February 2002.

13. **As per independent claim 1**, ROTHSCCHILD teaches:

A system for publishing images over a communication network, comprising:

a study storage device for storing a plurality of studies, each study comprising one or more images {See ROTHSCCHILD, Para. [0159], wherein this reads over "incorporates more robust database platform"};

a publication server coupled to said communications network {See ROTHSCCHILD, Para. [0157], wherein this reads over "the central data management system will include . . . advanced servers"}, said publication server adapted to enter an automatic mode wherein one or more studies are automatically sent to a client computer coupled to said communications network as they become available on said study storage device {See ROTHSCCHILD, Para. [0094], wherein this reads over "images from an imaging center are delivered to a database and routed to the viewer without requiring the user to access the database to retrieve image data"; and Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available"};

said client computer adapted to receive said one or more studies and store them in a local storage {See ROTHSCCHILD, Para. [0174], wherein this reads over "[r]emote image viewing system also preferably incorporates . . . a database"}; and

said client computer comprising means for a user to enter an interactive mode wherein a viewing session is initiated for viewing a selected study before transmission of said selected study is complete {See ROTHSCCHILD, Para. [0254], wherein this reads over "[a] user at the viewing station may open the files stored in the viewer database that are awaiting the user when the user needs the file"}, wherein data for viewing said selected study is obtained from said publication server using progressive image streaming techniques and from data already received and stored in said local storage {See ROTHSCCHILD, Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available" }.

14. **As per dependent claims 2, 13, and 26**, ROTHSCCHILD teaches:

The system according to claim 1, wherein said publication server is adapted to send one or more studies to said client computer {See ROTHSCCHILD, Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available"} in accordance with a set of publication rules {See ROTHSCCHILD, Para. [0104], wherein this reads over "[t]he [routing] logic will then create route requests to transmit the image file to the appropriate viewer based on routing logic that determines where the image file is to be forwarded"}.

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15. **As per dependent claim 3, ROTHSCCHILD, teaches:**

The system according to claim 2, wherein said publication rules comprises instructions for determining, for each new study, which clients are to receive it {See ROTHSCCHILD, Para. [0104], wherein this reads over "[t]he [routing] logic will then create route requests to transmit the image file to the appropriate viewer based on routing logic that determines where the image file is to be forwarded"}.

16. **As per dependent claims 4 and 15, ROTHSCCHILD teaches:**

The system according to claim 1, wherein said client computer comprises means for using only data stored in said local storage if a user initiates a viewing session of said selected study after all data for said selected study is completely received {See ROTHSCCHILD, Para. [0107], wherein this reads over "[o]nce studies are transmitted to the viewer, they are automatically stored in the viewer's database"; and Para. [0254], wherein this reads over "[a] user at the viewing station may open the files stored in the viewer database that are awaiting the user when the user needs the file"}.

17. **As per dependent claims 5 and 16, ROTHSCCHILD teaches:**

The system according to claim 1, wherein said client computer comprises means for using progressive image streaming techniques to retrieve data from said publication server for said selected study if a user initiates a viewing session of said selected study before any data corresponding thereto has been received by said client computer {See ROTHSCCHILD, Para. [0162], wherein this reads over "the 'pull' model where the images are stored on a server and a user has to login and initiate a download in order to view the images"; and Para. [0166], wherein this reads over "a web-based 'pull' functionality will also be available to facilitate secure data access"}.

18. **As per dependent claims 6 and 17, ROTHSCCHILD teaches:**

The system according to claim 1, wherein said client computer comprises data pull means adapted to periodically poll said publication server for new studies that have not yet been retrieved {See ROTHSCCHILD, Para. [0085], wherein this reads over "[t]he polling system is an automated system within the remote workstation or viewer that polls the central data management system for queued data"}.

19. **As per dependent claims 7 and 18, ROTHSCCHILD teaches:**

The system according to claim 1, wherein said client computer comprises data push means adapted to configure said publication server to automatically check for and send new studies that have not yet been transmitted to said client {See ROTHSCCHILD, Para. [0036], wherein this reads over "[a] method that pushes electronic records containing medical images to healthcare providers outside of the medical imaging center soon after the medical images are taken so that the healthcare providers may view the images without the need to remotely access a central image storage cite and find and download a specific, desired image for viewing"}.

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20. **As per dependent claims 8, 14, 19, and 24, ROTHSCHILD teaches:**

The system according to claim 1, wherein said publication server is adapted to send said one or more studies to said client using progressive image streaming techniques whereby information is sent in encoded layers of increasing accuracy and quality {See ROTHSCHILD, Para. [0104], wherein this reads over "the image file . . . is encoded . . . using a commonly recognized standards-based mechanism"}.

21. **As per dependent claims 9 and 20, ROTHSCHILD teaches:**

The system according to claim 1, wherein said client computer comprises means whereby if said user initiates a viewing session of said selected study after data is completely received by said client, then said client utilizes said data to provide instant rendering of images within said selected study {See ROTHSCHILD, Para. [0175], wherein this reads over "have access quickly to the entire data set"}.

22. **As per dependent claims 10 and 21, ROTHSCHILD teaches:**

The system according to claim 1, further comprising means for permitting said user to freely switch back and forth between automatic mode and interactive mode without the need to switch protocols {See ROTHSCHILD, Para. [0166], wherein this reads over "in addition to the above mentioned 'push' delivery service, a web-based 'pull' functionality will also be available to facilitate secure data access"}.

23. **As per independent claims 12 and 27, ROTHSCHILD teaches:**

An image publication system for use on a client computer coupled to a communications network, comprising:

first means for receiving a first command from a user to enter an automatic mode whereby new studies are sent immediately from said publication server to said client computer over said communications network as they become available {See ROTHSCHILD, Para. [0094], wherein this reads over "images from an imaging center are delivered to a database and routed to the viewer without requiring the user to access the database to retrieve image data"; and Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available"};

local storage device for storing said studies upon receipt {See ROTHSCHILD, Para. [0174], wherein this reads over "[r]emote image viewing system also preferably incorporates . . . a database"};

second means for receiving said studies and for storing them in said local storage {See ROTHSCHILD, Para. [0174], wherein this reads over "[r]emote image viewing system also preferably incorporates . . . a database"};

third means for receiving a second command from said user to view a selected study before data is completely received for said selected study and in response thereto, entering an interactive mode whereby an attempt is made to obtain data required for viewing said selected study from said local storage {See ROTHSCHILD, Para. [0254], wherein this reads over "[a] user at the viewing station may open the files stored in the viewer database that are awaiting the user when the user needs the file"}, and if unsuccessful, from said publication server using progressive image streaming

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techniques via one or more requests transmitted from said client computer to said publication server {See ROTHSCCHILD, Para. [0162], wherein this reads over "the "pull" model where the images are stored on a server and a user has to login and initiate a download in order to view the images"; and Para. [0166], wherein this reads over "a web-based 'pull' functionality will also be available to facilitate secure data access"}; and

fourth means for receiving and decoding data received from said publication server in response to said one or more requests {See ROTHSCCHILD, Para. [0253], wherein this reads over "[w]hen the message is received and decoded, the storage and extraction logic 423 stores the image file in the viewer database 424 which includes a relational database"}.

24. As per independent claims 23 and 28, ROTHSCCHILD teaches:

An image publication system for use on a publication server computer coupled to a communications network, comprising:

first means for receiving instructions from a client computer coupled to said communications network, said first means for configuring said publication server computer to automatically send new studies to said client computer as said studies become available {See ROTHSCCHILD, Para. [0094], wherein this reads over "images from an imaging center are delivered to a database and routed to the viewer without requiring the user to access the database to retrieve image data"; and Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available"};

second means for receiving requests for specific layers of accuracy for regions of interest of a study {See ROTHSCCHILD, Para. [0143], wherein this reads over "using medical imaging system to obtain a set of images associated with a target region of a patient's body"} selected by a user for viewing on said client computer before transmission of data for said selected study is complete {See ROTHSCCHILD, Para. [0104], wherein this reads over "[t]he [routing] logic will then create route requests to transmit the image file to the appropriate viewer based on routing logic that determines where the image file is to be forwarded"}; and

third means for sending said specific layers of accuracy for regions of interest of said selected study to said client computer in response to said requests {See ROTHSCCHILD, Para. [0143], wherein this reads over "[t]he local image workstation archives the data locally, and then 'pushes' the electronic record to central management system"; and Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available"}.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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26. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over ROTHSCCHILD, in view of Applicant's admitted prior art (hereinafter referred to as ADMITTED PRIOR ART).

ROTHSCCHILD teaches the limitations of claims 1-10, 12-21, 23-24, and 26-28 for the reasons stated above.

27. **As per independent claim 1**, ROTHSCCHILD, in combination with the ADMITTED PRIOR ART directed towards a Picture Archiving and Communication System (PACS), discloses:

A system for publishing images over a communication network, comprising:

a study storage device for storing a plurality of studies, each study comprising one or more images {See ADMITTED PRIOR ART, Para. [0004], wherein this reads over "[a] typical PACS system includes one or more imaging sources, an archive or image database and multiple viewing stations"; Para. [0007], wherein this reads over "an image . . . is stored on an image archive or storage facility"; and Para. [0009], wherein this reads over "contents of studies include one or more radiological images"};

a publication server coupled to said communications network {See ADMITTED PRIOR ART, Para. [0005], wherein this reads over "[u]sers are typically connected to the PACS server computer over a communications network"}, said publication server adapted to enter an automatic mode wherein one or more studies are automatically sent to a client computer coupled to said communications network as they become available on said study storage device {See ROTHSCCHILD, Para. [0094], wherein this reads over "images from an imaging center are delivered to a database and routed to the viewer without requiring the user to access the database to retrieve image data"; and Para. [0162], wherein this reads over "[t]he central data management system actively "pushes" the electronic records and associated images to the remote image viewing systems . . . as soon as the images are available"};

said client computer adapted to receive said one or more studies and store them in a local storage {See ADMITTED PRIOR ART, Para. [0010], wherein this reads over "sending the entire study data from the image storage location to the user's client workstation"}; and

said client computer comprising means for a user to enter an interactive mode wherein a viewing session is initiated for viewing a selected study before transmission of said selected study is complete {See ADMITTED PRIOR ART, Para. [0007], wherein this reads over "typically like to be able to view the images at (sic) soon as they are available"}, wherein data for viewing said selected study is obtained from said publication server using progressive image streaming techniques and from data already received and stored in said local storage {See ADMITTED PRIOR ART, Para. [0007], wherein this reads over "the server retrieves the image from the image database and transmits it to the client computer"; and Para. [0010], wherein this reads over "the contents of a study cannot be viewed until all its data is completely received by the client computer"}.

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28. **Claims 11, 22, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over ROTHSCCHILD, in view of Krishnan et al (USPGPUB 2006/0031372, hereinafter referred to as

SL KRISHNAN), filed on 15 February 2005, and published on 9 February 2006, *AND EFFECTIVE FILING DATE OF MARCH 18, 2002.*

ROTHSCCHILD teaches the limitations of claims 1-10, 12-21, 23-24, and 26-28 for the reasons stated above.

ROTHSCCHILD differs from the claimed invention in that it fails to disclose a system wherein the JPEG2000 standard is utilized in progressive image streaming techniques (claims 11 and 25).

29. **As per dependent claims 11, 22, and 25**, ROTHSCCHILD, in combination with KRISHNAN, discloses:

The system according to claim 1, wherein said progressive image streaming techniques are performed utilizing JPEG2000 standard {See KRISHNAN, Para. [0032], wherein this reads over "schemes that use JPEG2000 and JPIP to transmit data in multi-resolution and progressive fashion"}.

The combination of the inventions disclosed in ROTHSCCHILD and KRISHNAN would disclose a system wherein the progressive image streaming techniques are performed utilizing JPEG2000 standard, specifically, in a multi-resolution and progressive fashion. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions suggested by ROTHSCCHILD and KRISHNAN.

One of ordinary skill in the art would have been motivated to do this modification in order to support the system's progressive functionality such that interaction with the image data of the study is allowed before it is received in its entirety.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Robinson (U.S. Patent No. 5,291,401) discloses a system for sending the raw data from a complete patient study to a remote location.

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- Pinsky et al (U.S. Patent No. 5,469,353) discloses a method for providing radiological image interpretations to remote sites.
- Wong et al (U.S. Patent No. 6,260,021) discloses a method for distributing medical images to a plurality of client workstations.
- Cooke, Jr. et al (U.S. Patent No. 6,574,629) discloses a method for routing image data to reviewing stations.
- Parvulescu et al (U.S. Patent No. 6,678,764) discloses a system and method for medical image archiving.
- Hanna et al (USPGPUB 2004/0141661) discloses a system for receiving images from medical image devices located throughout a health care enterprise intranet.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Kim
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Technology Center 2100


SAM RIMELL
PRIMARY EXAMINER
